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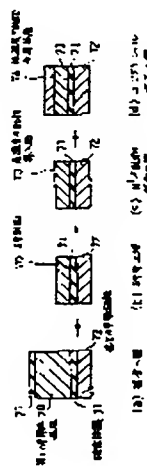
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### (54) MANUFACTURE OF SEMICONDUCTOR SUBSTRATE HAVING DIELECTRIC ISOLATION STRUCTURE

(57)Abstract:

PURPOSE: To improve the manufacturing precision of semiconductor substrates by the step of bonding the respective mirror-faces of the first and second semiconductor substrates with the interposol of a dielectric film deposited on one face which is mirror-polished, of grinding either face down to a predetermined thickness, of introducing high dopant into the ground face, and of overlaying it with a low-doped semiconductor layer.

CONSTITUTION: An N-type silicon substrate 70 one face of which is mirror-polished is both-faced with silicon oxide layers (dielectric layers) 71. With one face of a second N-type silicon substrate 72 mirror-polished, both substrates are joined with the mirror-polished faces face to face: these substrates are bonded by heat treatment. The first silicon substrate 70 is ground, and the ground face is further mirror-polished. Dopant is diffused into the first silicon substrate 70 with the solid diffusion source of antimony oxide to form a high-doped N-type silicon layer 73, and then a low-doped N-type silicon layer 74 is epitaxially grown from top of that layer 73. This process can improve the manufacturing precision of semiconductor substrates by uniformizing the film thickness and the resistance of circuitry-forming layers.



### LEGAL STATUS

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